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United States Patent [19]

Norfleet et al.

[11] **Patent Number:** **5,352,439**[45] **Date of Patent:** * **Oct. 4, 1994**[54] **DESENSITIZING ANTI-TARTAR
DENTIFRICE**[75] Inventors: **James Norfleet**, Plainfield; **Willie J. Carter**, Belle Mead; **Matthew J. Frankel**, Franklin Park; **Abdul Gaffar**, Princeton, all of N.J.[73] Assignee: **Colgate Palmolive Company**, New York, N.Y.

[*] Notice: The portion of the term of this patent subsequent to Aug. 31, 2010 has been disclaimed.

[21] Appl. No.: **71,384**[22] Filed: **Jun. 4, 1993****Related U.S. Application Data**

[63] Continuation of Ser. No. 778,532, Oct. 17, 1991, Pat. No. 5,240,697.

[51] Int. Cl.⁵ **A61K 7/16**; **A61K 7/18**[52] U.S. Cl. **424/52**; **424/49**;
424/57[58] Field of Search **424/49-58**,
424/[56] **References Cited****U.S. PATENT DOCUMENTS**

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Schiff et al "Efficacy of a Dentifrice Containing 5% Potassium Nitrate, 1.3% Soluble Pyrophosphate 1.5% PVM/MA Copolymer, and 0.243% Sodium Fluoride in a Silica Base on Dental Hypersensitivity-A Twelve Week Clinical Study" (Exhibit B)(Mar. 21, 1994).

Primary Examiner—Shep K. Rose[57] **ABSTRACT**

An oral composition, such as a toothpaste, includes an anti-tartar proportion of a polyphosphate anti-tartar agent (preferably with synthetic anionic polymeric polycarboxylate or equivalent, and fluoride) and a desensitizing proportion of a tooth pain inhibiting potassium salt which passes through exposed dentin tubules to tooth nerves or neurons, which salt can be potassium nitrate, potassium citrate or potassium oxalate, so that it helps to prevent tartar from forming on the teeth and also lessens any pain experienced by persons contacting their sensitive teeth with the oral composition. Preferably the oral composition is a desensitizing anti-tartar toothpaste or gel which, when the teeth are brushed with it, aids in removal of at least some tartar and prevents its reappearance, and at the same time diminishes any tooth pain that the brusher would otherwise experience due to such brushing. In preferred toothpastes the anti-tartar agent and the desensitizing agent are both potassium compounds and other components of the toothpaste, such as the detergent or surfactant, thickener, water soluble fluoride, anionic polymeric polycarboxylate, sweetener and any anti-calculus agent present, when they may be present as salts, will also be potassium salts.

15 Claims, No Drawings